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## Openstack increase volume capacity

Posted: May 23, 2014 in Uncategorized

Tags: linux, volume group

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If you have installed Openstack using DevStack, you will be able to create volumes or volume snapshots only until total capacity reaches 10GB. You won't be able to create volumes larger than 10GB and you won't be able to create more volumes when it reaches 10GB.

This article guides you how to increase this volume capacity so you can create more and larger volumes.

View the volume groups by executing "vgs" command. You can see that volume group "stack-volumes" is 10GB in size. So only volumes can be created upto 10GB.

```
1 $vgs
2 VG          #PV #LV #SN Attr   VSize  VFree
3 stack-volumes 3   1   0 wz--n-   10.00g 10.00g
4 stratos1      1   2   0 wz--n-  931.09g 48.00m
```

Let's create a new partition so that we can increase the capacity of the volume group. A file named "cinder-volumes" which has the size of 50GB is created. The file is associated to the loop device /dev/loop3. Then the device is partitioned using fdisk.

```
1 dd if=/dev/zero of=cinder-volumes bs=1 count=0 seek=50G
2 losetup /dev/loop3 cinder-volumes
3 fdisk /dev/loop3
```

And at the fdisk prompt, enter the following commands:

```
n
p
1
ENTER
```

ENTER

t

8e

w

Create a physical volume with the above device.

```

1 | root@stratos1:~# pvcreate /dev/loop3
2 | Physical volume "/dev/loop3" successfully created

```

Extend the volume group (stack-volumes) size by adding the newly created device.

```

1 | root@stratos1:~# vgextend stack-volumes /dev/loop3
2 | Volume group "stack-volumes" successfully extended

```

Let's see the details about the available physical devices. You will see the new device listed down.

```

1 | root@stratos1:~# pvs
2 | PV VG Fmt Attr PSize PFree
3 | /dev/loop0 stack-volumes lvm2 a- 10.01g 10.01g
4 | /dev/loop3 stack-volumes lvm2 a- 50.00g 50.00g

```

Now check the details of the volumes groups by executing the vgdisplay command. You will see there are more free space (60GB since we added 50GB more) in the volume group "stack-volumes".

```

1 | root@stratos1:~# vgdisplay
2 | --- Volume group ---
3 | VG Name stack-volumes
4 | System ID
5 | Format lvm2
6 | Metadata Areas 3
7 | Metadata Sequence No 303
8 | VG Access read/write
9 | VG Status resizable
10 | MAX LV 0
11 | Cur LV 1
12 | Open LV 1
13 | Max PV 0
14 | Cur PV 3
15 | Act PV 3
16 | VG Size 60.00 GiB
17 | PE Size 4.00 MiB
18 | Total PE 23040
19 | Alloc PE / Size 7680 / 30.00 GiB
20 | Free PE / Size 15360 / 60.00 GiB
21 | VG UUID bm4X5R-hC3V-zY5F-ZMVI-s7dz-Kpiu-tPQ2Zt

```

Now you will be able to create more and larger volumes.

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#### Comments



Roberto says:

July 9, 2014 at 1:13 pm

this not work for encryption!

You have to re-deploy Devstack with new row in local.conf like:

VOLUME\_BACKING\_FILE\_SIZE=50000M

if you want encryption for Cinder

#### Reply



Udara S.S Liyanage says:

July 9, 2014 at 5:26 pm

Hi Roberto,

Thank you very much for your feedback. Could you please explain more the issue you have mentioned.

#### Reply

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